

PATENT COOPERATION TREATY

PCT/EP2004/007398

US - Marshal

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

BASF AKTIENGESELLSCHAFT
67056 Ludwigshafen
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Global Intellectual Property
28. Juni 2006

crt

AST

Date of mailing (day/month/year)
22 June 2006 (22.06.2006)

Applicant's or agent's file reference
0000054744

IMPORTANT NOTIFICATION

International application No.
PCT/EP2004/007398 ✓

International filing date (day/month/year)
07 July 2004 (07.07.2004)

Applicant

BASF AKTIENGESELLSCHAFT et al

El: Phase beendet 20.12.2005

1. Transmittal of the translation to the applicant.

- The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).
- The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Yolaine Cussac

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 0000054744	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2004/007398	International filing date (<i>day/month/year</i>) 07 July 2004 (07.07.2004)	Priority date (<i>day/month/year</i>) 28 July 2003 (28.07.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant BASF AKTIENGESELLSCHAFT			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input checked="" type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report
12 June 2006 (12.06.2006)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 740 14 35	Authorized officer Yolaine Cussac Telephone No. +41 22 338 70 80
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)
Applicant's or agent's file reference 0000054744		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/EP2004/007398	International filing date (day/month/year) 07.07.2004	Priority date (day/month/year) 28.07.2003
International Patent Classification (IPC) or both national classification and IPC		
Applicant BASF AKTIENGESELLSCHAFT		

<p>1. This opinion contains indications relating to the following items:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input checked="" type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application <p>2. FURTHER ACTION</p> <p>If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.</p> <p>If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.</p> <p>For further options, see Form PCT/ISA/220.</p> <p>3. For further details, see notes to Form PCT/ISA/220.</p>

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/EP2004/007398

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

This opinion has been established on the basis of a translation from the original language into the following language

, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

a sequence listing

table(s) related to the sequence listing

b. format of material

in written format

in computer readable form

c. time of filing/furnishing

contained in the international application as filed.

filed together with the international application in computer readable form.

furnished subsequently to this Authority for the purposes of search.

3. In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. II Priority

1. The following document has not yet been furnished:

- copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
 translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No. PCT/EP2004/007398

Box No. V	Reasoned statement under Rule 43bis.I(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement

Novelty (N)	Claims	<u>1 - 11</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1 - 11</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1 - 11</u>	YES
	Claims	_____	NO

2. Citations and explanations:

1 The present opinion makes reference to the following documents:

D1: DE-A-198 54 574 (mentioned in the application)
 D2: JP-A-06 345978 (abstract from "Chemical Abstracts")
 D3: DE-A-37 20 883
 D4: EP-A-0 346 669
 D5: US-A-4 539 376

2 Document D1 is regarded as being the closest prior art. It discloses (cf. the claims) a method for the secondary crosslinking of water-absorbing polymers, from which the subject matter of independent claim 1 differs in that the secondary crosslinker is a bicyclic amide acetal of the formula I.

2.1 The subject matter of independent claims 1 ("method"), 9 ("product") and 11 ("use") is therefore novel (PCT Article 33(2)).

The problem addressed by the present invention can therefore be considered that of finding (cf. page 2, lines 33-35 of the present application) compounds which even when used in very small amounts produce

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/EP2004/007398

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

comparable or enhanced gel crosslinking or secondary surface crosslinking as compared with D1.

2.2 The solution proposed to this problem in claim 1 of the present application is significantly suggested by none of citations D2 to D5. Those documents disclose the use of bicyclic amide acetals of the formula I as crosslinkers for coating materials or adhesives. The gel crosslinking or secondary surface crosslinking of water-absorbing hydrogels using bicyclic amide acetals, however, is neither disclosed nor clearly suggested therein.

The method of claim 1, the water-absorbing polymers of claim 9 and the use of claim 11 therefore involve an inventive step (PCT Article 33(3)).

2.3 Claims 2-8 are appendant to claim 1, and claim 10 is appendant to claim 9; they therefore likewise meet the requirements of novelty and inventive step of the PCT.

2.4 The subject matter claimed is commercially applicable (PCT Article 33(4)).

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

1. Contrary to PCT Rule 5.1(a) (ii), the description does not cite documents D2 to D5 or indicate the relevant prior art disclosed therein.
2. At page 6, lines 3-13, a large number of documents have been listed. It has emerged that some documents possibly have an incorrect number, since they could not be found (cf. DE-A-4344548 and DE-A-3807289) or because their content, in contradistinction to what the application indicates, does not relate to hydrogels (cf. documents DE-A-3917846, DE-A-4219607, DE-A-3511086, DE-A-3118172, DE-A-3028043, DE-A-4418881, EP-A-0801483, EP-A-0455985, EP-A-0205874 and EP-A-0670073). Additionally, document DE-A-4020780 is given twice in the list.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/007398

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Page 5, lines 21-29, list other secondary crosslinkers which can be used in combination with the secondary crosslinkers of the invention.

This list of **reactive, other secondary crosslinkers**, however, includes compounds (such as "ethylene glycol", "propylene glycol", "1,3-propanediol", "glycerol", i.e., polyfunctional alcohols) which are described in the dependent claims 6 and 7 (cf. also page 4, line 38 to page 5, line 10) as being **inert solvents**.

This contradiction within the application leads to doubts concerning the subject matter of the claims (cf. also the examples in table 1, where "1,2-propanediol" has been used together with water as a solvent), and consequently claims 6 and 7 are not clear (PCT Article 6).